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AESTRACT

This paper presented an individualized, analytical and performance based secondary teacher education system. Each of the four phases was described according to a set of objectives, a contracted sequence of activities, and a discussion of the underlying rationale. Phase I, Observation, stressed the interaction of student teachers with their cooperating teachers and pupils. Phase II, Survival Skills, stressed the application of skills, concepts, and products to be employed in teaching situations. Phases III, Unit Planning, emphasized an analytical approach to teaching through a systematic development of unit plans. Phase IV, Student Teaching, provided the students with extensive and intensive teaching experiences to which previous knowledge could be applied. The importance of training program staff under this new system was emphasized, with stress on modular instruction, team teaching and evaluation. (BRB)

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A SYSTEM FOR SECONDARY TEACHER TRAINING: ET TU, BRUTE?

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The system proposed in this paper is a result of two events. First of all, four years of educational research and development, producing teacher training packages, provided ample opportunity for the author to distinguish between the immediately practical and the hopelessly idealistic regarding teacher training. The second event was the decision of the secondary teacher training staff at Colorado University to adopt a completely new approach. Many of the concepts included in the proposed system have been incorporated.

This paper has essentially two major goals: (1) to sketch out the ideational content and underlying rationale for the system and (2) to present some ideas for initiating and sustaining the changes wrought by the system. This paper will not go into an analysis of teacher training systems, per se; the literature in this area is voluminous. (It is assumed that bits and pieces of the system can be found in other programs.)

The teacher training system can be characterized as (1) individualized; (2) analytical; and (3) performanced-based. The system has been subdivided into a number of Phases. Each Phase will be illustrated by means of (1) a set of objectives; (2) a contracted sequence of activities and (3) a discussion of some of the underlying rationale.

1) The system is designed to accommodate a divergent set of approaches to teaching, short of a completely subjective, laissez-faire orientation. This does not reflect any particular virtue on my part! Rather, conceptual divergence is a fact of life in most teacher-training institutions. That is why the Phase objectives are couched in general, process-like terms. The specific goals will vary within as well as between institutions.

2) The system emphasizes student-instructor interaction on a one-to-one and/or small group basis. The heart of the system is the Unit-Plan (see Phases II, III, and IV). The idea of instructor and student jointly and systematically analyzing performance and assessing future activities is critical. Moreover, the analytical approach encourages both instructor and student to continually evaluate skills/concepts previously taught, in terms of subsequent teaching success (hopefully as measured by pupil achievement). To be honest, it is assumed that pedagogical views may start to change for the better. It's tough hanging onto one's beliefs when the evidence begins to mount that previously accepted concepts don't work.

3) The system assumes that there is always less than adequate time available to develop auto-instructional modules. The emphasis is on locating materials already available, and developing new products only when necessary. Moreover, the system utilizes staff experience, training and insight on a tutorial basis. These skills would be difficult (if not impossible) to incorporate as auto-instructional modules within the very limited time resources found at most institutions.

4) The system establishes a balance between learning in the cognitive sense, and performance/application. All traditional courses, such as educational psychology, specific methods, etc. are considered as means to ends, not ends in themselves.

5) The system assumes that student development is best achieved by (a) frequent and specific feedback, with subsequent opportunities for reassessment and planning, and (b) a contractual management process which develops student insights.

6) The system assumes a hierarchical approach to teacher training, proceeding from the simpler/less extensive to the more complex/ intensive types of experiences.

7) The system assumes through out that the primary functions of evaluation are diagnosis and prognosis.

PHASE I - OBSERVATION

OBJECTIVES

To enable the student to observe and evaluate various types of activities normally associated with teaching in the secondary schools.

To enable the student to become more closely acquainted with the cooperating teacher and pupils; these interactions will pave the way for smoother classroom interaction in subsequent Phases.

SEQUENCE

Contract: The student and instructor agree on specific types of classroom observations and activities. If the observation requires training (e.g. Flanders Interaction Analysis) such training proceeds classroom visitations. The student and instructor record-keeping responsibilities are defined.

Activities: The student executes requirements of contract.

Exit: The student submits all records of activities, and undergoes debriefing with the instructor. To exit from Phase I the student must demonstrate he has met all contractual obligations.

DISCUSSION

Phase I is normally carried out at the beginning of the teacher training period, and is not meant to last more than one week, (exclusive of any prior observational training).

Phase I provides the first contractual experience for student and instructor. It's likely to be a new experience for both, and most certainly for the student. As indicated earlier, a major outcome of this program is to move the student from complete dependency upon the instructor to a position where he is able to competently assess previous performance and cooperatively develop realistic plans regarding future training. The importance of this type of learning has been well documented and need not be established again. It is recognized, of course, that student options in Phase I are somewhat limited, as to number and kinds of activities. However, the negotiating act will serve as a model for subsequent operations. Hopefully both instructor and student will come to regard careful planning as a must.

As far as the kinds of activities are concerned, the student should not be asked to do any teaching (including tutoring). He is there primarily to look and listen. It is recommended that the pupils and teachers observed will be the same as those with whom the student interacts in subsequent Phases. This will help the

student to better prepare and execute his lessons when he begins actual teaching activities.

PHASE II--SURVIVAL SKILLS

OBJECTIVES

1. To enable the student to acquire skills/concepts/products necessary for success in teaching.
2. To enable the student to apply skills/concepts/products in limited classroom interactions.

SEQUENCE

Contract

Student contracts with instructor for specific courses in the "Survival Skills" area. Besides the course sequence, the contract should also require the student to demonstrate to the instructor at periodic intervals evidence of satisfactory program progress and achievement. The contract should allow for renegotiation of activities at any time, based on accumulated evidence.

Activities

The following types of instructional activities could be included: specific and general methods courses (with some form of microteaching of similar situation activities); educational psychology; Unit Plan construction; social foundations; audio-visual skills; and measurement and evaluation (if not included elsewhere).

Exit:

The student presents evidence of having successfully completed the original contract and all subsequent modifications.

DISCUSSION

The skills/concepts contracted by the student in Phase II will undoubtedly be ordered along such dimensions as: required--optional or sequenced--nonsequenced. The decisions as to which courses and how they are sequenced are direct outcomes of the negotiations between instructor and student. One way to help the contractual process would be to include the "Survival Skills" courses in a catalog, along with descriptions.

Although the instructor must be constantly aware of (1) state certification requirements and (2) those skills/concepts which his own experience leads him to assume are critical to the professional development of the student, student interests should be taken into account. Therefore, the faculty member may have to insist upon some activities and accept student requests for others. However, the Unit Plan materials are a must.

Notice that the contract contains a strong evaluative component. Such activities as microteaching, or contracted supervising visits are needed to help the student assess his development, particularly in the performance areas.

The student exits from the contract with evidence of having completely fulfilled the contract, in addition to those modifications incurred during Phase II. It must be emphasized that readjustment may be necessary depending upon previous successes and failures of the student. This process of utilizing feedback should clearly be established in Phase II. Learning packages, incidentally, permit much more flexibility regarding changes in the program.

PHASE III--UNIT PLANNING

OBJECTIVES

1. To enable the student to systematically develop and execute Unit Plans of increasing complexity and duration.
2. To encourage student and staff member to consistently employ an analytical approach to teaching.
3. To enable the student to acquire such additional skills/ concepts/products as are needed to improve his teaching, ("Supplemental Skills").

SEQUENCE

Contract

The student contracts with the staff member for a specific number and type of Unit Plans. Thses Unit Plans must be realistic, in the sense that they meet the needs of the participating school as well as the student's educational objectives. The duration and extensiveness of the Unit Plans should proceed from the simple/less extensive to the more complex/extensive. Again, all plans are subject to revision based on evidence accumulated during Phase III. If his performance is less than satisfactory, the student may opt for: (1) "Survival Skills"; or (2)"Supplemental Skills". Activities on succeeding Unit Plans follow only after an analysis of previous Unit's experiences.

Activities

For each Unit Plan:

1. The student selects topics based on an analysis of future classroom needs. The cooperating teacher(s) should participate in the decisions.

2. The student develops each Unit employing the skills acquired in Phase II; staff feedback is utilized where appropriate.
3. The student and staff pre-assess the potential effectiveness of the Unit. Any doubts must be resolved prior to Step 4. Student contracts with the staff member for specific observational visits.
4. The student executes the Unit Plan.
5. The student and instructor analyze the student's performance, utiiizing information acquired from the cooperating teacher, instuctor visits, analysis of test data, as well as the student's own observations.
6. On the basis of the evidence the student: (a) begins the next Unit Plan; (b) returns to "Survival Skills" for additional work; or (c) returns to "Supplemental Skills" for additional work.

Exit

The student demonstrates to the instructor that he has successfully completed the original contract as well as subsequent modifications, and is ready for Phase IV.

DISCUSSION

The most critical element of Phase III is the assumption that the most effective learning paradigm for teacher training is based on a hierarchial-analytical approach to teaching, involving systematic planning, execution, and evaluation. Moreover, the first Units may extend for only several days and involve just one class.

This procedure sharply differs from the traditional student teaching situation, where the student often hurriedly develops lessons under trememdous pressure, carries them out, and then finds himself frequently unable to definately assess what he has done and reevaluate his future teaching stratagies. The slower and more analytical approach suggested is a viable alternative. There is no sense in thrusting a student teacher into a very intensive situation, where he may develop bad teaching behaviors right from the beginning. He may be forced to live with his mistakes for the entire intern experience, because he has no opportunity to change.

The reader will note that there is a new area, referred to as "Supplemental Skills". The "Survival Skills" discussed previously refer to more basic kinds of concepts/skills which are assumed to be prerequisite for any kind of effectiveness in the classroom. The "Supplemental Skills" are designed to reflect a more focussed approach to problems the student encounters once he <u>begins teaching</u>. In other words, not only is the complexity of the materials greater than "Survival Skills", but the meaningfulness of the materials emerges as a consequence of teaching.

For example, the educational psychology materials now being developed to support the Colorado University program are divided between "Survival Skills" and the "Supplemental Skills". The "Survival Skills" represent a survey-like core of concepts (basically cognitive) which are assumed to be a prerequisite for any teaching activities. The educational psychology materials in

the "Supplemental Skills" area are organized around problem areas encountered in teaching. The circumstances under which the student perceives his needs make it more likely that the materials will have a greater impact than if they were given earlier as "Survival Skills". Besides reading, the later modules contain other kinds of activities and experiences which are likely to be more relevant as a result of his classroom teaching experiences. In addition to the educational psychology materials, specific methods materials, social foundations, etc. should also be included as part of the "Supplemental Skills" system. On the other hand, the student may have to go back to some basic skills (i.e. "Survival Skills"). The distinctions between the skill areas are not only ones of complexity, but of situational meaningfulness.

In Phase III student contributions to the contracting process are increased since the types as well as the numbers of Unit Plans to be constructed are an open question. Obviously sequencing and content must be worked out between instructor, cooperating teacher, and student. The early Phase III teaching experiences should be relatively short in duration and limited in extensiveness. That is, a Unit Plan lasting two or three days, taught in one or two classes, is a legitimate Phase III beginning. Moreover, if the student has carried out Phases I and II in the same classrooms where Phase III is enacted, he has gained prior acquaintanceship with his students so he is not coming in "cold". Again it is assumed that all Unit Plans are complete prior to execution, including objectives, resources, learning steps, and evaluation.

The instructor-student interaction pattern provided in Phase III

provides for certain outcomes that may not be immediately obvious. One, the staff member can encourage Unit building activities which may normally not occur when the student is relatively independent and under stress, as during the traditional student intern experience. For example, the science educator may insist that every Unit Plan account for potential hazards as well as needed first aid procedures. Next, emphasis can be placed on the development of such "luxury" (or "when we have time") learning resources such as audio-visual aids. Obviously preparation of these materials is not a regular student teaching experience. Finally, Phase III provides for heavy instructor emphasis on test and construction analysis of data. In short, useful work habits could be established and subsequently sustained throughout the entire program.

To exit from Phase III the student demonstrates to the satisfaction of both himself and the staff that he is capable of developing Unit Plans, executing them, and analyzing his performance. It might be added that in analyzing teaching success, pupil achievement should be stressed. This emphasizes the concept that pupil gains represent the ultimate criterion of any teaching.

PHASE IV--STUDENT TEACHING

OBJECTIVES

1. To provide the student intern with more intensive/extensive teaching experiences in which all the skills/concepts/products previously acquired are put to use.
2. To enable the student to acquire such teaching experiences as to prepare him for different types of teaching situations.

SEQUENCE

Contract

The student and instructor outline a sequence of teaching experiences, with the sequence and/or extensiveness based on the student performance capabilities demonstrated in Phase III. Moreover, the experiences selected should reflect student vocational objectives.

With the aid of the cooperating teacher, the student and instructor determine the Units to be devised to meet needs of the first teaching experience. The student builds an initial backlog of Units prior to teaching, following the Phase III sequence. However, if previous student performance is adequate, the supervision need not be as intensive. The student also contracts for specific types of instructor supervision.

Subsequent teaching experiences will be based on an evaluation of each preceeding experience in conjunction with staff and cooperating teacher. Indeed, flexibility is encouraged. Changes may include alternate work experiences and/or additional "Supplemental Skills" activities.

Activities

Student carries out each contract as agreed upon.

Exit

Upon completion of contract, student and instructor systematically review Phase IV results. Additional evidence should include Phases II and III data as well as comments from other staff members who have interacted with the student. Exiting from Phase IV is equivalent to acknowledging that the student is acceptable as a teacher.

DISCUSSION

Phase IV is essentially a "putting-it-together" of previous experiences. Indeed, the student's contractual negotiations should represent a mature and responsible performance. That is, by this time he should have adequate insight into his own capabilities, and some notion of what he wants to do as a teacher.

Phase IV should provide an opportunity for many types of experiences. Nothing we have said indicates teaching experiences must be at the same school, or even be a public school experience. In fact, the student may select alternative work experiences. For example, after teaching in a middle-class white school population, he may opt for an inner-city experience. To accomplish this he may determine along with the instructor that prior preparation should include such activities as encounter groups with the pupils in his classes, working in some community project, etc. Obviously both the student and the instructor should feel free to explore any possibilities, so long as both recognize that the experience must contribute ultimately to the student's objectives.

As indicated previously, exiting from Phase IV (and the program) should be based on an analysis of the student's records. By this time the record will be voluminous. The bits of information collected about each student during these months will far surpass anything usually collected. The "go" or "no-go" for graduation will be an easy decision. Having come through the program successfully should be adequate evidence that the student has succeeded. Nonetheless, the evidence should be reviewed with the student, and the student debriefed as to future improvements in the program.

ADDITIONAL COMMENTS

We would now like to comment on certain overall aspects of the program. We felt the value of these would be increased if the reader went through the program first.

1. The time period during which this program can be implemented is a function of facilities, time available, and institutional goals. However, it can be assumed that this system should not be executed in less than a one semester or two quarter time period.
2. The number of students assigned to the instructor should not exceed 20; 15 would be preferable. The student load can be partially relieved by the use of teaching assistants and peer tutors.
3. Although not specifically mentioned, decisions about dropping a student from the program can be made at any time. Considering the feedback situation, such a decision would be based on more evidence than is now commonly available.
4. The role of the teacher is considerably altered in this system. Instead of equating the system with himself, as in the traditional classroom, he must integrate his activities with other learning experiences provided for the student.
5. The cooperating teacher plays an extended role in this system, making appropriate selection critical.

TRAINING THE STAFF

Many institutions hopefully set out to modify their teacher training program, but find within a short time that essentially what they have is old wine in a new bottle. To modify a program one

has to modify staff behavior. Moveover, changing behavior is relatively easy; sustaining change is extremely difficult.

The system described previously should help sustain change. The constant evaluative processes make it very difficult for a staff member to maintain the status quo when the evidence begins to mount up.

The reasons for program failure are common and we shall discuss just a few of them.

It is not unusual for many institutions setting out to modify their programs (in spirit at least) to simply request staff to construct learning modules and sequences. After all, nearly everyone now recognizes that an individualized program with clear objectives is a good thing. The usual procedures employed in constructing learning modules range anywhere from giving staff released time to doing it in between classes and/or coffee breaks. Staff training is usually minimal or non-existent ("shoot, anyone can construct modules"). The end result is usually an uneven, non-systematic hodgepodge of lessons, usually consisting of the old course content broken down into a series of supposedly self-instructional packets, with a set of objectives and the old exams. In addition we find the course content materials frequently show little integration with each other. Moreover, performance activities are usually left to student teaching--which doesn't do the job. In short, there is no system - the deadwood has been turned over and around.

This leads us to another problem. Required student activity should always be made in terms of the program objectives. The

continued designation of specific content courses, educational psychology, etc. is a bad procedure. What results is the continuation of a collection of isolated, diverse, and fragmented concepts. Obviously, some faculty agreement is needed on relevant program objectives. Some faculty may protest that teaching is a matter of individual taste, but if this were true then let's get out of the business. Rather, some things work and some don't - let's spare the student the agony of listening and trying to evaluate contradictory notions perpetuated throughout his program.

To initiate staff changes, we have carried out a number of activities here at the University of Colorado, which we would like to pass on as recommendations. We began working with staff members to help them develop the management skills and instructional modules.

1. The first introduction to staff training on modular instruction should be some form of modular instruction. In preparing the first seminar, we constructed a learning module on learning modules. We felt that first impact was very important; to lecture to staff on constructing learning modules is a way of indicating that the process is not really very useful.
2. It is suggested that staff members work cooperatively in <u>teams</u>; moreover a staff member can be on more than one team. Putting a faculty member alone in a room and telling him to go it his own way has several disadvantages. For example:
   a) Teams take advantage of different staff skills; after all, it is not prudent to assume that <u>each</u> staff member has all the skills necessary for attacking instructional problems.

b) The team provides a more supportive atmosphere, when the going gets rough.

c) Allowing staff to exchange ideas avoids the problem of completely disparate approaches to teacher training.

d) Certain universal types of management functions and general instructional problems can be worked out among the staff members without duplication of effort. In other words, you're not insisting that every faculty member rediscover the wheel.

3. In addition to developmental activities, faculty members are often asked to evaluate materials already in existence. It is true, of course, that a faculty member can evaluate without having personally constructed instructional modules; nonetheless, it is better to have faculty members first construct products (or at least get into the process) and then begin evaluating. Indeed, observing evaluation by faculty members, it's our impression that those who have been actually constructing modules are much more systematic and analytical in their evaluation than those who have never done anything of the sort.

SUMMARY

In this paper we have outlined a system which may be utilized to carry out a modular, individualized, performance-based teacher program. We have also suggested several kinds of training activities to be utilized in helping faculty initiate as well as sustain change.